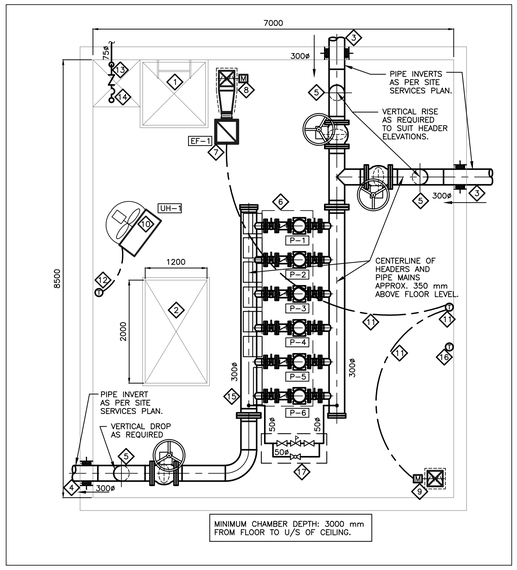
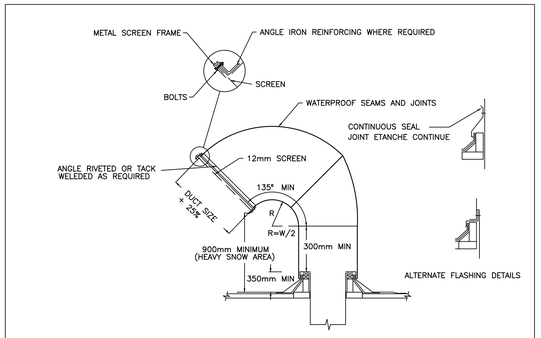


NEW PUMPING STATION PLAN

SCALE: 1:50.



ROOF GOOSENECK – TYPICAL ARRANGEMENT

SCALE: N.T.S.

MECHANICAL NOTES:

1. PERSONNEL ACCESS HATCH WITH LADDER.
2. EQUIPMENT SERVICE ACCESS HATCH.
3. INLET CITY WATER PIPING. PIPING INVERT AS PER SITE SERVICES DRAWING. EXTEND NEW PIPING TO 900 mm OUTSIDE PUMP HOUSE WALL AND CONNECT TO PIPE PROVIDED BY SITE SERVICES CONTRACTOR. PROVIDE DUCTILE IRON WALL SLEEVE WITH WALL COLLAR AND WATERTIGHT RUBBER SEALING LINK. PROVIDE ALL NEW PIPING AND ACCESSORIES INSIDE PUMP HOUSE AS SHOWN AND AS REQUIRED FOR COMPLETE SYSTEM.
4. OUTLET CITY WATER PIPING. INVERT AS PER SITE SERVICES DRAWING. EXTEND NEW PIPING TO 900 mm OUTSIDE PUMP HOUSE WALL AND CONNECT TO PIPE PROVIDED BY SITE SERVICES CONTRACTOR. PROVIDE DUCTILE IRON WALL SLEEVE WITH WALL COLLAR AND WATERTIGHT RUBBER SEALING LINK.
5. PROVIDE PIPING RISE AS REQUIRED TO SUIT LEVEL DIFFERENCE BETWEEN INVERTS OF INLET AND OUTLET PIPING AND ELEVATION OF NEW PIPE HEADERS AT NEW PUMP BOOSTER SYSTEM.
6. PROVIDE 150 MM HOUSEKEEPING PAD AND INSTALL NEW PRE-ASSEMBLED PACKAGED PUMPING SYSTEM AS PER SYSTEM MANUFACTURER'S INSTRUCTIONS.
7. SUSPEND NEW EXHAUST FAN FROM CEILING WITH VIBRATION ISOLATING HANGERS.
8. NEW 300x300 EXHAUST DUCT UP THROUGH ROOF TO NEW EXHAUST GOOSENECK. PROVIDE NEW MOTORIZED DAMPER WITH 120 VOLT ACTUATOR WITH END SWITCH, SPRING LOADED, NORMALLY CLOSED. PROVIDE NEW ROOF CURB AND GOOSENECK AS PER TYPICAL DETAIL. INSULATE ALL EXHAUST DUCTWORK LOCATED INSIDE PUMP HOUSE WITH 25 MM THICK THERMAL INSULATION AND VAPOUR BARRIER. COVER WITH CANVAS FINISHING.
9. PROVIDE NEW 400x400 INTAKE GOOSENCK AND ROOF CURB. PROVIDE NEW MOTORIZED DAMPER WITH 120 VOLT ACTUATOR WITH END SWITCH, SPRING LOADED, NORMALLY CLOSED. PROVIDE NEW 400x400 INTAKE DUCT AND EXTEND DOWN TO 300 MM ABOVE FLOOR LEVEL. INSULATE ALL INTAKE DUCTWORK LOCATED INSIDE PUMP HOUSE WITH 50 MM THICK THERMAL INSULATION AND VAPOUR BARRIER. COVER WITH CANVAS FINISHING.
10. SUSPEND UNIT HEATER FROM ROOF AS PER MANUFACTURER'S INSTRUCTIONS.
11. LINE VOLTAGE COOLING THERMOSTAT AND ALL WIRING TO MOTORIZED DAMPERS AND TO EXHAUST FAN TO BE BY ELECTRICAL CONTRACTOR.
12. THERMOSTAT TO BE PROVIDED WITH UNIT HEATER BY HEATER MANUFACTURER. ALL WIRING, TRANSFORMERS, SWITCHES, RELAYS AND WIRING TO BE BY ELECTRICAL CONTRACTOR.
13. PROVIDE 75ø BACKWATER VALVE C/W 75ø PIPING TO WEEPING TILE SYSTEM TO BE PROVIDED BY SITE SERVICES CONTRACTOR.
14. PROVIDE 75ø DRAIN PIPING FLUSH WITH BASE OF SUMP C/W COVER AND P-TRAP, CONNECTED TO BACKWATER VALVE INLET.
15. PROVIDE CONTROL WIRING FROM BOOSTER PUMP CONTROL PANEL TO BUILDING AUTOMATION AND CONTROL SYSTEM (BACS) IN MAIN BUILDING. UPDATE BACS GRAPHICS TO DISPLAY BOOSTER PUMP CHAMBER PUMPS C/W GENERAL ALARM, INDIVIDUAL PUMP STATUS, INLET PRESSURE AND OUTLET PRESSURE.
16. PROVIDE TEMPERATURE SENSOR C/W CONTROL WIRING BACK BACS. INDICATE TEMPERATURE ON GRAPHICS AND PROVIDE LOW AND HIGH TEMPERATURE ALARMS.
17. PROVIDE 50ø BY-PASS LINE BETWEEN DISCHARGE AND SUCTION HEADERS C/W SERVICE SHUT-OFF VALVES, MANUAL GLOBE VALVE AND PRESSURE RELIEF VALVE. PRESSURE RELIEF VALVE TO HAVE SUSTAINING CONTROL, ADJUSTABLE CLOSING SPEED AND ALL INTEGRAL PIPING, TUBING AND ACCESSORIES. VALVE TO BE SIZED AT 38ø, RATED FOR MAXIMUM CONTINUOUS FLOW OF 7.9 L/S, STANDARD PRESSURE ADJUSTMENT RANGE 138 kPa TO 1380 kPa.

GENERAL NOTE:

ALL NEW WATER PIPING, VALVES AND FITTINGS SHALL BE CONSTRUCTED OF MATERIALS APPROVED FOR POTABLE WATER APPLICATION. ALL PIPING AND FITTINGS TO BE FABRICATED OF CEMENT LINED DUCTILE IRON WITH FLANGED CONNECTIONS AS PER LATEST EDITION OF NATIONAL BUILDING CODE REQUIREMENTS.

FAN AND HEATER SCHEDULE

No.	SERVICE	LOCATION	CAPACITY (L/S)	E.S.P. (Pa)	ELECTRICAL VOLT/PHASE	HP or WATTS	REMARKS
EF-1	PUMPING ROOM EXHAUST	PUMP HOUSE	366	62.5	120/1	348 WATT	C/W EXHAUST GRILLE, BACK DRAFT DAMPER, BIRD SCREEN, VIBRATION ISOLATING HANGERS.
UH-1	10.0 kW UNIT HEATER	PUMP HOUSE	330	–	575/3	1/30 HP	HORIZONTAL UNIT HEATER, CEILING MOUNTED.

PUMP SCHEDULE

REF	SERVICE	FLOW (l/s)	△ P (kPa)	RPM	VOLTAGE	HP	REMARKS
P-1	CITY WATER BOOSTER PUMP	20.0	450.0	3500	575/3	20.0	C/W SHUT-OFF VALVES, CHECK VALVE, INLET & OUTLET PRESSURE GAUGES, AND VARIABLE FREQUENCY DRIVE.
P-2	CITY WATER BOOSTER PUMP	20.0	450.0	3500	575/3	20.0	C/W SHUT-OFF VALVES, CHECK VALVE, INLET & OUTLET PRESSURE GAUGES, AND VARIABLE FREQUENCY DRIVE.
P-3	CITY WATER BOOSTER PUMP	20.0	450.0	3500	575/3	20.0	C/W SHUT-OFF VALVES, CHECK VALVE, INLET & OUTLET PRESSURE GAUGES, AND VARIABLE FREQUENCY DRIVE.
P-4	CITY WATER BOOSTER PUMP	20.0	450.0	3500	575/3	20.0	C/W SHUT-OFF VALVES, CHECK VALVE, INLET & OUTLET PRESSURE GAUGES, AND VARIABLE FREQUENCY DRIVE.
P-5	CITY WATER BOOSTER PUMP	20.0	450.0	3500	575/3	20.0	C/W SHUT-OFF VALVES, CHECK VALVE, INLET & OUTLET PRESSURE GAUGES, AND VARIABLE FREQUENCY DRIVE.
P-6	CITY WATER BOOSTER PUMP	20.0	450.0	3500	575/3	20.0	C/W SHUT-OFF VALVES, CHECK VALVE, INLET & OUTLET PRESSURE GAUGES, AND VARIABLE FREQUENCY DRIVE.

NOTE: PUMPS P-1, 2, 3, 4, 5 AND P-6 TO BE PROVIDED AS PACKAGE COMPLETE WITH MULTI-PUMP CONTROLLER AND INDIVIDUAL VARIABLE SPEED DRIVES FOR EACH PUMP. SYSTEM TO BE PROVIDED FACTORY ASSEMBLED AND WIRED, COMPLETE WITH MOUNTING BASE, VALVES, ACCESSORIES, SUPPLY AND INLET PIPE HEADERS AND ALL INTERCONNECTING PIPING AND WIRING. MAIN SUCTION AND DISCHARGE HEADERS SHALL BE C/W 50ø CONNECTION PORTS WITH VALVES, READY FOR FIELD INSTALLATION OF BY-PASS CONTROL.

LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR DIFFUSER OR REGISTER		DENOTES NEW
	RETURN AIR GRILLE		DENOTES EXISTING
	LINEAR DIFFUSER		DENOTES REMOVAL
550x550 767 A	GRILLE AND DIFFUSER MARKER: SIZE; CAPACITY (L/S); TYPE (REFER TO SCHEDULE)		DENOTES DRAIN PIPING BELOW SLAB
			DENOTES DRAIN PIPING ABOVE SLAB
	RELOCATED THERMOSTAT AS SHOWN		NEW D.C.W. PIPING
S	SPEED CONTROLLER		EXISTING D.C.W. PIPING
T	TEMPERATURE SENSOR		NEW D.H.W. PIPING
TC	TIME CLOCK BY DIV. 16.		EXISTING D.H.W. PIPING
	EXISTING DUCT		SANITARY VENT PIPING
	NEW DUCTWORK		EXISTING HEATING WATER SUPPLY PIPE
			EXISTING HEATING WATER RETURN PIPE
	THERMAL INSULATION		NEW HEATING WATER SUPPLY PIPE
			NEW HEATING WATER RETURN PIPE
			GATE OR BALL VALVE
	ACOUSTIC INSULATION		BALANCING VALVE
	EXISTING FLEXIBLE DUCT		FLOOR DRAIN WITH P-TRAP
	NEW FLEXIBLE DUCT		SAFETY RELIEF VALVE
	CAP DUCT OR PIPE AS INDICATED		PRESSURE REDUCING VALVE
	NEW CONICAL SIDE TAKE-OFF C/W BALANCING DAMPER		BACKFLOW PREVENTER

NOT ALL SYMBOLS SHOWN IN LEGEND ARE NECESSARILY USED IN THE DRAWING SET.

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

Real Property Branch
Professional and Technical Services Sector

Direction générale des biens immobilières
Secteur des services professionnels et techniques

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OTTAWA, ONTARIO

drawing / dessin
PUMP STATION FLOOR PLAN SCHEDULES AND DETAILS

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